

What is claimed is:

1. An inkjet multi-function machine for scanning and printing in which a print head and scanner can more effectively perform both a scanning and a printing operation by using cooperative positioning, the machine comprising:

a scanner unit having a scanner so as to perform a scanning operation, the scanner comprising at least one sensing face;

a printer unit having a carriage to move a print head for jetting ink onto a sheet of paper so as to perform a printing operation; and

a scanner fixing unit comprising a scanner position adjuster for fixing and supporting the scanner to be movable between a first position for scanning a document in the scanning operation, and a second position for scanning a sheet of paper in the scanning operation;

said scanner fixing unit further comprising a fixer for fixing the scanner position adjuster on the carriage to allow the scanner to move together with the carriage when the carriage moves, and at the same time, to allow the scanner position adjuster to selectively move the scanner between the first and the second position.

2. The inkjet multi-function machine as claimed in claim 1, wherein the document comprises at least one scan surface from which data is received.

3. The inkjet multi-function machine as claimed in claim 1, wherein the paper comprises at least one print surface upon which data is transferred.

4. The inkjet multi-function machine as claimed in claim 1, wherein the scanner position adjuster comprises:

a rotating member for fixing and supporting the scanner to be rotatable between a first and a second direction, the first direction being a scanner orientation wherein the sensing face of the scanner is directed toward a scan surface of the document, and the second direction being a scanner orientation wherein the sensing face of the scanner is directed toward a print surface of the paper; and

a lifting member for ascending and descending the rotating member between

the first and second position to maintain the scanner at a desired sensing distance with respect to at least one of the document and the sheet of paper.

5. The inkjet multi-function machine as claimed in claim 4, wherein the rotating member comprises a first driving motor having a first rotating axis for immovably fixing the scanner thereon.

6. The inkjet multi-function machine as claimed in claim 5, wherein the lifting member comprises:

a lifting belt for fixing the first driving motor thereon, the lifting belt having a first and second end;

a driving and a driven pulley each having an axis, for supporting the first and second ends of the lifting belt, respectively, and for rotating the lifting belt along a path between the driving and driven pulleys to ascend and descend the first driving motor fixed on the lifting belt; and

a second driving motor having a second rotating axis connected with an axis of the driving pulley.

7. The inkjet multi-function machine as claimed in claim 6, wherein the fixer comprises:

a plurality of brackets installed on the carriage to rotatably support the ends of the axis of the driven pulley and the ends of the axis of the driving pulley, wherein the axis of the driving pulley is further connected with the second rotating axis of the second driving motor.

8. The inkjet multi-function machine as claimed in claim 1, wherein the scanner position adjuster comprises:

a rotating and lifting member for fixing and securing the scanner to be rotatable between a first and a second direction, the first direction being a scanner orientation wherein the sensing face of the scanner is directed toward a scan surface of the document, and the second direction being a scanner orientation wherein the sensing face of the scanner is directed toward a print surface of the paper; and

said rotating and lifting member further provided for fixing and securing the scanner to be ascendable or descendable to allow the scanner to maintain a desired sensing distance with respect to at least one of the document and the sheet of paper.

9. The inkjet multi-function machine as claimed in claim 8, wherein the rotating and lifting member comprises:

a third driving motor having a third rotating axis; and

a lifting part for fixing the scanner on the third rotating axis to ascend or descend the scanner according to the rotating operation of the third rotating axis.

10. The inkjet multi-function machine as claimed in claim 9, wherein the lifting part comprises:

at least one of a circular disk and a bar for immovably fixing the scanner at a radial outer end thereof and fixed vertically to the third rotating axis at an end of the third rotating axis.

11. The inkjet multi-function machine as claimed in claim 10, wherein the fixer comprises:

at least one fixing bracket formed at the third driving motor; and

at least one screw member for fixing the fixing bracket at the carriage.

12. A method for performing an inkjet machine function, such as scanning and printing, in which a print head and scanner can more effectively perform by using cooperative positioning, the method comprising:

securing at least one scanner unit to a printer carriage unit via a scanner fixing unit, said fixing unit provided to communicate at least one of a first, second and third linear motion and a first rotational motion to said scanner unit;

controlling said scanner to travel between a first position for scanning a document, and a second position for scanning a sheet of paper via said first linear motion, further controlling said scanner to rotate between a first direction for scanning a document, and a second direction for scanning a sheet of paper via said first rotational motion; and

controlling said printer carriage to travel via said second and third linear motion for achieving at least one function comprising printing a sheet of paper, scanning a sheet of paper and scanning a document.

13. A method for performing a function, such as scanning and printing, as claimed in claim 12, wherein said first and second linear motion are orthogonal.

14. A method for performing a function, such as scanning and printing, as claimed in claim 12, wherein said second and third linear motion are orthogonal.

15. A system for performing an inkjet machine function, such as scanning and printing, in which a print head and scanner can more effectively perform by using cooperative positioning, the system comprising:

at least one scanner unit fixed to a printer carriage unit via a scanner fixing unit, said fixing unit provided to communicate at least one of a first, second and third linear motion and a first rotational motion to said scanner unit;

at least one controller provided to control said scanner to travel between a first position for scanning a document, and a second position for scanning a sheet of paper via said first linear motion, said controller further provided for controlling said scanner to rotate between a first direction for scanning a document, and a second direction for scanning a sheet of paper via said first rotational motion; and

at least one printer carriage to travel via said second and third linear motion for achieving at least one function comprising printing a sheet of paper, scanning a sheet of paper and scanning a document.